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NOV 02 2006

REMARKSI. Introduction

In response to the Office Action dated August 2, 2006, claims 1, 10 and 19 have been amended. Claims 1-3, 5-12, 14-21 and 23-27 remain in the application. Re-examination and re-consideration of the application, as amended, is requested.

II. Claim Amendments

Applicants' attorney has made amendments to the claims as indicated above. These amendments were made solely for the purpose of clarifying the language of the claims, and were not required for patentability or to distinguish the claims over the prior art.

III. Prior Art RejectionsA. The Office Action Rejections

In paragraphs (2)-(3) of the Office Action, claims 1-3, 5-12, 14-21 and 23-27 were rejected under 35 U.S.C. §103(a) as being obvious in view of U.S. Patent 5,930,764 (Melchione).

Applicants' attorney respectfully traverses these rejections.

B. The Applicants' Independent Claims

Independent claims 1, 10 and 19 are directed to a method, system and article of manufacture for generating analytic data sets for use in modeling in customer relationship marketing. Claim 1 is representative, and comprises a computer-implemented method of generating analytic data sets for use in modeling in customer relationship marketing, comprising: (a) specifying one or more Variable Groups, wherein each Variable Group is a set of one or more Analytic Variables with similar characteristics and each Analytic Variable is comprised of both primitives and conditions; (b) creating an Analytic Data Set Template containing one or more of the Analytic Variables selected from the specified Variable Groups that are required for a specific analysis task, wherein execution conditions are defined for the Analytic Data Set Template; and (c) automatically generating SQL statements to retrieve and generate the Analytic Variables contained in the Analytic Data Set Template from a database using the primitives and conditions of the Analytic Variables.

C. The Melchione Reference

Melchione describes a sales process support system and method for identifying sales targets using a centralized database to improve marketing success. The system includes a central database that receives comprehensive information from a variety of internal and external feeds, and standardizes and households the information in a three-level hierarchy (households, customers, and accounts) for use by a financial institution. The comprehensive information stored on the central database is accessed through micromarketing workstations to generate lists of sales leads for marketing campaigns. A database engine is provided for generating logical access paths for accessing data on the central database to increase speed and efficiency of the central database. The system distributes sales leads electronically to branch networks, where the sales leads are used to target customers for marketing campaigns. The central database is accessed by workstations of a central customer information system for profiling customers, enhancing customer relationships with the financial institution, and electronically tracking sales and service performance during marketing campaigns. The system can also include a system for opening an account in a single session that is in communication with the central database, micromarketing centers, central customer information systems and branch systems of the present invention so that data can pass between these systems where legal and appropriate.

D. Applicants' Claims Are Patentable Over The References

Applicants' invention, as recited in independent claims 1, 10 and 19, is patentable over the Melchione reference, because the claims recite limitations not found in the reference.

Nonetheless, the Office Action asserts that Melchione teaches the Applicants' claimed invention, because Melchione discloses all the elements recited in Applicants' independent claims:

Claims 1-3, 5-12, 14-21 and 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Melchione et al (US 5,930,764).

As per claim 1, 10 and 19, Melchione teaches generating data sets (column 5, line 34: "database" which contains sets of data) for use in customer relationship marketing (column 5, lines 55-57: "target optimum groups of customers for each marketing campaign conducted.") comprising: specifying one or more variable groups (column 20, line 1-2: "summary variables"), where the group is a set of analytic variables with similar characteristics and the analytic variables are comprised of both primitives and conditions (column 20, line 4: "characteristics" whereby the data is sorted according to set characteristics it has in common. And it is known that SQL databases utilize primitives and conditions to sort data); creating an analytic data set template containing one or more of the analytic variables selected from the

specified variable groups and required for a specific analysis task, wherein execution conditions are defined for the analytic data set template (column 17, lines 62-67: "If the user requests and saves the keys, the user can then use the saved keys to pick up different set of fields (using the data extractor component of the database engine) at different times. Alternatively, the user can further reduce the set of keys (and save the new set, instead of, or in addition to the old set of keys) by applying additional criteria to the old set." Where the data extractor is used as a template for entering search criteria.

Templates are known with SQL databases as well as the use of conditional statements for sorting the data.); and generating SQL statements to retrieve and generate analytic variables contained in the template from the database using the primitives and conditions of the analytic variables (column 18, lines 24-30: The data extractor component of the database engine 40, which can execute alone or with the first key extract component, has the function of pulling the desired data from the database once the keys have been extracted. If it executes with the first component, the keys may not even have to be saved on a table but passed through host program variables from previous SQL statements." Melchione utilizes a SQL database which means that the SQL query language is used to structure queries and extract information from the database. SQL is known to contain primitives which are basic operations used to support more complex operations such as functions, procedures and methods.

Conditions are also inherent to the SQL language as they utilize the word "if" with a conditional statement. SQL also contains variables or characteristics used to represent a value or expression and can be replaced with real data to process different data sets.

SQL was developed by IBM in the 1970s and has become an ISO and ANSI standard for querying relational databases. SQL is a database query and programming language widely used for accessing, querying, updating, and managing data in relational database systems. Using SQL, you can retrieve data from a database, create databases and database objects, add data, modify existing data, and perform other, more complex functions. With SQL, you can also change the server configuration, modify database or session settings, and control data and access.).

Applicants' attorney disagrees with this analysis. Specifically, Applicants' attorney asserts that the Office Action misconstrues both Applicants' claims, as well as the Melchione reference.

Consider, for example, the cited portions of Melchione, which are set forth below:

Melchione: column 5, line 34

It is thus an object of the present invention to provide an electronic sales and service support system that provides improved identification of sales targets using a centralized database and acts as a tool for improved customer service and relationship building.

Melchione: column 5, lines 55-57

The present invention provides a tool for establishing a long term and broad relationship with a customer by allowing those in charge of marketing financial

services to access and discuss the full range of financial services presently used by the customer, as well as to only target optimum groups of customers for each marketing campaign conducted.

Melchione: column 20, line 1-2

If the user wants to specify the product code at the service type level, the query can be answered in one step by using the flags and summary variables at the household level.

Melchione: column 20, line 4

However, even in this case the user may want to specify other characteristics that the product must have (open date, individual account balance, etc.) that are only available at the account level.

Melchione: column 17, lines 62-67

If the user requests and saves the keys, the user can then use the saved keys to pick up different set of fields (using the data extractor component of the database engine) at different times. Alternatively, the user can further reduce the set of keys (and save the new set, instead of, or in addition to the old set of keys) by applying additional criteria to the old set.

Melchione: column 18, lines 24-30

The data extractor component of the database engine 40, which can execute alone or with the first key extract component, has the function of pulling the desired data from the database once the keys have been extracted. If it executes with the first component, the keys may not even have to be saved on a table but passed through host program variables from previous SQL statements.

The above portions of the Melchione reference do not teach or suggest all the limitations of Applicants' independent claims:

1. The Melchione reference does not teach or suggest "specifying one or more Variable Groups, wherein each Variable Group is a set of one or more Analytic Variables with similar characteristics and each Analytic Variable is comprised of both primitives and conditions."

The Office Action asserts that Melchione teaches Applicants' claimed limitation "specifying one or more Variable Groups, where the Variable Group is a set of Analytic Variables with similar characteristics and the Analytic Variables are comprised of both primitives and conditions," at column 20, line 1-2 and line 4.

Yet, as shown above, these portions of Melchione merely refer to "summary variables" and "characteristics" of a product. However, the "summary variables" referred to in Melchione merely

relate to totals, averages, etc. Moreover, the "characteristics" referred to in Melchione are characteristics of a product, such as open date, individual account balance, etc.

There is no discussion in these portions of Melchione of Variable Groups that are sets of Analytic Variables with similar characteristics. Indeed, nowhere do these portions of Melchione describe any groups.

In addition, there is no discussion in these portions of Melchione of Analytic Variables that are comprised of both primitives and conditions. As defined in Applicants' specification, Analytic Variables are comprised of primitives and conditions that describe how the Analytic Variables are derived from the operational data, wherein primitives are base variables, while conditions are predicates, aggregates or other functions.

The Office Action assertions that it is known that SQL databases utilize primitives and conditions to sort data are insufficient and based solely on hindsight, rather than any teaching of the Melchione reference. Nowhere does the prior art define Analytic Variables that are comprised of both primitives and conditions.

2. The Melchione reference does not teach or suggest "creating an Analytic Data Set Template containing one or more of the Analytic Variables selected from the specified Variable Groups that are required for a specific analysis task, wherein execution conditions are defined for the Analytic Data Set Template."

The Office Action also asserts that Melchione teaches Applicants' claimed limitation "creating an Analytic Data Set Template containing one or more of the Analytic Variables selected from the specified Variable Groups and required for a specific analysis task, wherein execution conditions are defined for the Analytic Data Set Template," at column 17, lines 62-67.

Yet, as shown above, these portions of Melchione merely refer to saving keys for later use. However, the keys referred to in Melchione are merely keys used to access data that satisfy user criteria.

There is no discussion in these portions of Melchione of Analytic Data Set Templates that contain the Analytic Variables selected from specified Variable Groups and that are required for a specific analysis task. Moreover, there is no discussion in these portions of Melchione of execution conditions that are defined for the Analytic Data Set Templates.

The Office Action assertions that templates are known with SQL databases as well as the use of conditional statements for sorting the data are insufficient and based solely on hindsight, rather

than any teaching of the Melchione reference. Nowhere does the prior art define Analytic Data Set Templates that contain Analytic Variables selected from specified Variable Groups that are required for a specific analysis task, or the definition of execution conditions for the Analytic Data Set Templates.

3. The Melchione reference does not teach or suggest "automatically generating SQL statements to retrieve and generate the Analytic Variables contained in the Analytic Data Set Template from a database using the primitives and conditions of the Analytic Variables."

Finally, the Office Action asserts that Melchione teaches Applicants' claimed limitation "generating SQL statements to retrieve and generate Analytic Variables contained in the Analytic Data Set Template from a database using the primitives and conditions of the Analytic Variables," at column 18, lines 24-30.

Yet, as shown above, these portions of Melchione merely refer to a data extractor component of a database engine that retrieves the desired data from the database using keys. However, as noted above, the keys referred to in Melchione are merely keys used to access data that satisfy user criteria.

There is no discussion in these portions of Melchione of Analytic Data Set Templates that contain Analytic Variables selected from specified Variable Groups, wherein the Analytic Variables are comprised of both primitives and conditions.

The Office Action assertions that Melchione utilizes a SQL database, which means that the SQL query language is used to structure queries and extract information from the database, and that SQL is known to contain primitives which are basic operations used to support more complex operations such as functions, procedures and methods, are insufficient. Nowhere does the prior art define Analytic Data Set Templates or Analytic Variables, as those terms are defined in Applicants' application.

Indeed, the SQL of Melchione cannot be equated to the Analytic Data Set Templates, Variable Groups and Analytic Variables of Applicants' invention, because Applicants' invention generates SQL from Analytic Data Set Templates comprised of Analytic Variables. According to the Office Action, SQL is equivalent to Analytic Data Set Templates and Analytic Variables. The question becomes, then, why would you need a step to generate SQL from SQL?

4. Applicants' invention provides advantages and benefits over the Melchione reference.

The Analytic Data Set Templates, Variable Groups and Analytic Variables of Applicants' invention are entities or objects at a level higher than (or different from) SQL. Specifically, the recited elements of Applicants' invention comprise an automated Analytic Data Set Creation service, which simplifies and automates the process of creating analytic data sets useful for modeling and analysis out of operational data stored in the relational database.

In using the Analytic Data Set Creation service, the user first specifies one or more Variable Groups, wherein a Variable Group is a set of Analytic Variables with similar characteristics, and the Analytic Variables are comprised of primitives and conditions that describe how the Analytic Variables are derived from the operational data. As noted above, primitives are base variables, while conditions are predicates, aggregates or other functions.

The user creates an Analytic Data Set Template containing the desired Analytic Variables that are required for a specific analysis task. These Analytic Variables are selected from one or more Variable Groups for inclusion in the Analytic Data Set Template. Moreover, execution conditions can be defined for the Analytic Data Set Template.

Finally, the Analytic Data Set Creation service performs a Smart SQL Generation function that automatically generates SQL statements that retrieve and/or generate the desired Analytic Variables contained in the Analytic Data Set Template from the relational database using the specified primitives and condition.

A number of benefits are provided by the Analytic Data Set Creation service. For example, the service saves time and effort by analysts and support staff, so analysts can spend more time doing analysis, rather than mining data from the relational database. Moreover, the Analytic Data Set Creation service leverages work previously done by creating a library of analytic variables that can be used by anyone, which promotes consistent use of information. In addition, the Analytic Data Set Creation service makes it much easier to deploy models for use by multiple analysts.

Thus, Applicants' attorney submits that independent claims 1, 10 and 19 are allowable over the Melchione reference. Dependent claims 2-3, 5-9, 11-12, 14-18, 20-21 and 23-27 are submitted to be allowable over the Melchione reference in the same manner as the independent claims, because they are dependent on independent claims 1, 10 and 19, respectively, and thus contain all the limitations of the independent claims. In addition, dependent claims 2-3, 5-9, 11-12, 14-18, 20-21 and 23-27 recite additional novel elements not shown by the Melchione reference.

IV. Conclusion

In view of the above, it is submitted that this application is now in good order for allowance and such allowance is respectfully solicited. Should the Examiner believe minor matters still remain that can be resolved in a telephone interview, the Examiner is urged to call Applicants' undersigned attorney.

Respectfully submitted,

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Date: November 2, 2006

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G&C 30145.424-US-01